Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES
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Ex parte SANDRA L. WOOD, THOMAS J. KUNDMANN, LEE M. PROCTOR
and KEN STEWART
_____

Appeal No. 1997-2380
Application No. 08/121,809[1]
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ON BRIEF
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Before HAIRSTON, MARTIN and DIXON, Administrative Patent
Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1

through 14.

The disclosed invention relates to a method and apparatus

in a communication system for determining whether received

frames of information are good or bad frames of information.

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[1] Application for patent filed September 15, 1993.

The method and apparatus uses a first bit correction threshold

until the number of consecutive erasures of bad frames equals

six (Figure 5). Thereafter, the method and apparatus uses a

second bit correction threshold until the number of

consecutive frames that are not erased equals two. If two

good frames are received, then the method and apparatus

switches back to the first bit correction threshold.

Claim 1 is illustrative of the claimed invention, and it

reads as follows:

1. A method of determining whether frames of information
are bad or good frames of information based on multiple
thresholds in a communication system, the method comprising
the steps of:

determining whether a frame of information is a bad or
good frame of information based on a first bit correction
threshold;

erasing at least one frame of information determined to
be a bad frame of information; and

determining whether a frame of information is a bad or
good frame of information based on a second bit correction
threshold.

The references relied on by the examiner are:

Fletcher et al. (Fletcher)   3,953,674   Apr. 27,
1976
Gould et al. (Gould)   5,113,400   May 12,
1992

Claims 1 through 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Gould in view of Fletcher.

Reference is made to the brief and the answer for the respective positions of the appellants and the examiner.

OPINION

The obviousness rejection of claims 1 through 14 is reversed.

Gould discloses an error detection system for a discrete receiver (Figure 5). A re-encoded signal received by the receiver (Figure 4A) and an encoded signal received by the receiver (Figure 4B) are compared (Figure 4C) to detect errors in the received signal. "When portions of the re-encoded signal differ too greatly from the actual, received signal, a bad frame indication is generated" (Abstract). "When a bad frame indication is generated, the entire frame is ignored by the receiver" (column 9, lines 28 and 29).

The examiner acknowledges (Answer, page 3) that "Gould does not specifically disclose the erasing of a bad frame," and that "Gould does not explicitly . . . disclose the use of two thresholds employed in the determining of bad frames." Notwithstanding the lack of such teachings in Gould, the examiner concludes that "it is well known in the art to erase such frames when they are determined to be bad" (Answer, page 3), and that "increasing the threshold once an error is detected is well known within the art" (Answer, page 5).

According to the examiner (Answer, pages 3 and 4),

"adaptive thresholding is well known in the art as disclosed

by Fletcher

et al." Although "Fletcher in the discussion of a telemetry

synchronizer discussed changing modes depending upon the

number of good frames or bad frames of data received (see

abstract and columns 6-7)" (Answer, page 4), Fletcher's modes

(i.e., lock, verify and search) (Figure 1; column 6, line 67

through column 7, line 13) do not include erasure of a frame

of information. During the mode changes, only one threshold

value (i.e., the output from threshold detector 34) is used by

Fletcher, and the Fletcher telemetry synchronizer never

switches from one threshold value to another threshold value.

In other words, the other threshold detector 15 in Fletcher

(Figure 1) is not used in conjunction with the threshold

detector 34 to form two threshold values that are switched in

and out of the synchronizer system based upon bad frame

erasure/mode changes.

We agree with appellants' argument (Brief, pages 7 and 8)

that the claimed first and second bit correction "thresholds

used to make the determination of whether a frame of

information is a bad or good frame of information is not (as
contended by the Examiner) the same as switching between modes
of operation (as in Fletcher)" based upon a single threshold
value. As indicated supra, the examiner has acknowledged that
Gould does not disclose the use of two thresholds in the
determination of bad frames.

In summary, the obviousness rejection of claims 1 through
14 is reversed because neither Gould nor Fletcher teaches or
would have suggested to one of ordinary skill in the art the
claimed switching between two bit correction thresholds based
upon the erasure of at least one bad frame of information.

DECISION

The decision of the examiner rejecting claims 1 through
14 under 35 U.S.C. § 103 is reversed.

REVERSED

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KENNETH W. HAIRSTON   )
Administrative Patent Judge   )
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) BOARD OF PATENT
JOHN C. MARTIN   )   APPEALS

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                                                   )  INTERFERENCES
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                    JOSEPH L. DIXON                )
                    Administrative Patent Judge    )
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